

ABSTRACT OF THE DISCLOSURE

Dual-bit nitride read only memory (NROM) cell with parasitic amplifier and method of fabricating and reading the same. A NROM cell comprises a semiconductor substrate with a first well region having a conductive type opposite that of the substrate disposed therein. A second well region having a conductive type opposite to the first well region is disposed in the first well region. A gate dielectric layer is disposed over portions of the second well region, wherein the gate dielectric layer comprises a nitride layer. A conductive layer is disposed on the gate dielectric layer to form a gate. And, a pair of first doped regions having a conductive type opposite to the second well region are symmetrically disposed in the second well region of both sides of the gate, wherein one of the first doped regions, the second well region and the first well region constitute a parasitic current amplifier.